

## II. REMARKS

### A. Introduction

In this Office Action the claims 1-8 are noted as pending and are rejected based on prior art.

In summary of this Response minor amendments are made to clarify the written description, claims 3 and 7 are canceled, independent claims 1 and 5 are amended, and remarks are provided.

### B. Rejection of Claims 1-8 Under 35 U.S.C. §102

These claims have been rejected as being anticipated by Pedersen, U.S. Patent No. 6,414,775. The Action states that the reference shows, among other things, "a modulation control unit...to thereby generate the response signal, " without identifying any specific structure in the drawings or a passage in the written description.

In response thereto, it is respectfully submitted that the present invention, as recited by claims 1-2, 4-6 and 8, was not anticipated by the cited reference for the following reasons.

Independent claims 1 and 5, as amended herein, recite, among other features, a modulation control unit that modulates pump light by response information or regenerated signal to generate a response signal, and modulates another pump light by the response information or the regenerated signal to generate the response signal. The another pump light is in the direction reverse to pumping, does not cause forward Raman amplification and can be received by an adjoining repeater, when the response signal travels in the direction identical to that in which the optical main signal travels. Support for this amendment can be found in the Specification, e.g., compare the discussion of steps 4-9 and 14-19 on pages 13-14 and 16-18, and the related FIGS. 4 and 6.

Pedersen relates to a pump laser 60 that "provides the optical pump energy for both transmission directions of the amplifier pair." Col. 4, lines 9-10. A pump controller 64, responsive to "signals" from a receiver 65, applies current to the pump laser 60 to adjust the total output power generated by the pump laser 60. Col. 4, lines 17-20. Further, similar to the prior art shown in Fig. 2 of the present application, "Each repeater includes a loop back path through which a portion of the outgoing signal may be tapped and returned along the opposite traveling fiber so that repeater performance may be monitored." Col. 3, lines 51-54. Compare page 8, line 23 to page 10, line 11. Also, the line monitoring equipment 230 of Pedersen relies on probe tones, not different pulse lights, to detect defects in the line. Col. 4, lines 57-66, Col. 5, lines 27-

41 and Col. 6, lines 7-12.

Pedersen fails to disclose the recited modulation control unit, particularly in regards to the pump lights and directions.

III. CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that the claims are now in condition for allowance.

If there are any additional fees associated with this Response, please charge same to our Deposit Account No. 19-3935.

Finally, if there are any formal matters remaining after this Response, the undersigned would appreciate a telephone conference with the Examiner to attend to these matters.

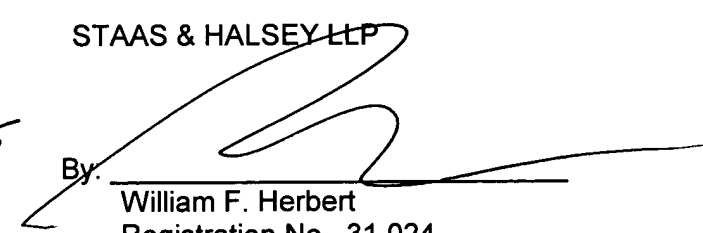
Respectfully submitted,

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5/25/05

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